# A Dissertation on Hydrocephalus

by

Warner Briscoe

of Virginia.

Passed March 1824
W. R. H.
Dean

1824

Di

In looking
ness to w
under the
which the
existed;
inflammat
ipsulation
towards
to the disc
which now
the most
of the dis
thus been
ding the fr

A

# Dissertation &c

In looking over the Catalogue of diseases to which the human family daily render themselves liable, I see none upon which the pen of ingenuity has not been exercised; and therefore it is with some diffidence I engage in the topic of this dissertation; not however, with the idea of forwarding any new theory with respect to the disease or condemn the practice which now exists, but merely to point out the most popular opinions entertained of the disease and the treatment which has been found most successful in retarding the progress of it.

be applied
this accu
found in
Prints the
the Physic
under Co
Heart
I then p
liable to
since an
nevertheles
being a
which a
the accu
that pre
Hydrocep
and inte
a collec
upon

In reflecting upon the insidious nature of this disease as well as the difficulty we find in effecting a cure, none indeed I think should command the attention of the physician more than the one now under consideration. It is supposed to attack children chiefly under the age of ten years. That this age is particularly liable to an attack of the disease, experience and observation has confirmed; but nevertheless we have on record cases of water being discovered in the brain after this period, which appears to prove in some measure, the disease should not be restricted to that period alone.

Hydrocephalus has been divided into external and internal. The former title denoting a collection of water over the pia mater upon the surface of the brain; the latter

signifying
the centre
always be
a most a
like natu
the observ
was not
They were
use of it
of the acc
however, w
improv
portion a
ing acc
to a m
a supe
With the
are fun
ting the

signifying an effusion of fluid into the ventricles. Internal Hydrocephalus has always been esteemed a fatal as well as a most distressing disease. From its peculiar nature it appears it did not escape the observation of the ancients; and although it was not unknown to them, yet it seems they were not acquainted with the real nature of it, although frequent occurance of the disease took place. The great obstacle, however, which presented itself in their part of improvement was desection. The approbation which is now met with for opening dead bodies, points out our progress to a more enlightened period, compared with the superstitious notions entertained by them. With this consent the modern physicians are furnished with opportunities for collecting that knowledge which was so much

required
time of
Case of
Anymen
have
treated
been
home
no vo
until
Hydro
sudden
in a
Comes
little
is exte
the D
ieult
emble

required to throw light upon the true na
= ture of the disease.
Cases of this disease are early recorded. The
nonymous Mercurialis was probably the first to
have mentioned the complaint to be
seated in the ventricles, though it has
been spoken of by Boerhaave, Petit and
some others, yet there appears to be
no very accurate account given of it
until Whytt commenced the subject.
Hydrocephalus sometimes makes its attack so
suddenly as to deprive the patient of existance
in a very short time, though it more generally
comes on gradually and in such cases the
little sufferer lingers several weeks before life
is extinguished. The real nature as well as
the seat of the disease is of such diff
= icult distinction, from its strong re
= semblance to an irregular Remittent

r from
difficul
affection
it alw
it unta
on w
the gast
always
diseas
means
and we
emptiing
we shou
of infla
vessels
prevail
upon
the Ca
of the

or from similarity of symptoms of difficult dentition, as well as some affections of the bowels, as to render it almost impossible to distinguish it until somewhat advanced. Thus we should never be led astray by the garb which it assumes, but should always suspect the existence of the disease and attack it with prompt means, otherwise delay would be dangerous and we should be completely foiled in attempting a cure. As has been hinted above we should always suspect the existence of inflamation or an engorgement of the vessels of the brain, when such symptoms prevails as would make us to decide upon the probability of the nature of the case Viz. Flushed face, dilatation of the pupils, and aversion to light,

stupor,
became
and ir
symptom
upon th
tolerable
hood a
them to
invariab
neck,
nausea
is brou
can b
days, a
become
If the
assume
escape
the bo

stupor, sudden interruption of sleep with screaming, hot skin, preternaturally quick and irregular pulse &c. When these symptoms occur we may justly conclude upon the existence of the disease with tolerable safety. When children, however, have arrived at that age, which enables them to describe their feelings, they will invariably complain of their head and neck, having considerable fever, with nausea & vomiting, though very little is brought up by the effort. If the disease continues its progress for some days, drowsiness and disinclination to motion become the most prominent symptoms. If the disease be not relieved it now assume a different form, from the escape of water into the ventricles of the brain, which may take place

ther pr
n engo
brain. B
plained
on of t
mit fo
when the
and prles
entertain
tricles B
fumes
the prep
y enla
tricles
tended.
tility to
ffection
ally atte
iseas

either gradually or suddenly.
The engorged vessels which supply the brain, being now in some measure relieved from distention by the effusion of lymph, the attendant symptoms remit for a shorter or longer time, when they return with greater violence and frustrate all hopes, which were entertained for a recovery. On the ventricles becoming distended the face assumes its red appearance; while the pupils of the eye become greatly enlarged, increasing as the ventricles become more and more distended. Strabismus and an insensibility to light, as well as a paralytic affection of one side are more generally attendant, on this stage of the disease; while stertorous breathing

with Co
the skille
in this
so nick
encumbra
produce
the Cave
stages o
been div
the foll
1st. stage
be known
false u
to accom
movement
contract
dr. skin
2d. stage —
is a re

with convulsion soon finishes the little sufferers life. The pulse in this stage of the disease become so quick, it is almost impossible to enumerate it, from the great irritation produced by the effused fluid into the cavities of the brain. The three stages into which this disease has been divided may be characterized by the following symptoms.

1st. Stage — This stage of the disease may be known by a frequent irregular full pulse which seldom or never fails to accompany the disease in its commencement. Pain in the head, with contracted pupils, white tongue and dry skin &c.

2d. Stage — This is also well marked. There is a remission of pain and an

abatement
pupils re
raised, m
even to sno
ring very
the patient
3d. stage —
ing, is no
of almost
turned the
the st, pu
hot skin,
The great
of light
of the a
insensibil
second,
opposite
The time

abatement of febrile symptoms, the pupils resume their natural appearance, nausea with no desire whatever to snooze or be raised, the latter proving very distressing and harassing to the patient.

3d. Stage — This, as well as the two preceding, is rarely well marked by a return of almost all the symptoms which characterised the first Viz pain in the head, thirst, pulse preternaturally frequent, hot skin, white tongue &c.

The great distress which the stimulus of light occasions in the first stage of the disease and the total insensibility to its impression in the second, appears to arise from very opposite conditions of the brain at the time of their occurrence.

The inab
of lift
liscus
drom
peculia
And in
of lymp
Consiger
con.

Q

In cons
ease ca
have a
flow of
other fa
fits of
ral dete
organ a

the inability to bear the stimulus of light in the first stage of the disease, we may conclude to arise from the presence of inflamation peculiar to the first stage of it. And in the second from the effusion of lymph into the ventricles and consequently distention and compression.

## Proximate cause.

In considering the causes of this disease we might enumerate those which have a tendency to determine a greater flow of blood to the brain than to other parts of the system, as continued fits of vomiting, which by soliciting that determination to the vessels of that organ as to give rise to the disease.

Rich re
& this
been en
indeed
exercise
and per
upon the
by bone
from
blows o
with do
The inac
have bee
ity as th
may co
not bel
debility
White
ion of

With respect to the proximate cause of this disease various opinions have been entertained by different men, and indeed men of excellence and worth have exercised their ingenuity, more to retard and perplex than to advance the knowledge upon this subject. It has been supposed by some to be an affection arising from some disease, particularly fever, blows or from the brain sympathizing with some other part of the body. "The inactivity of the absorbents" of Darwin have been forwarded with no little ingenuity as the Cause of the disease. Though they may exist as an effect, yet we can not believe in their primary existence. Debility, as brought forward by the ingenious White has its advocates. It is the opinion of the great Beddoes, it belongs

to the
usual
pency
one
by. Pre
mulatio
great
congest
as its
This
illustr
being c
disease
or an
congest
by Lay
Page
ces a
which

to the class of inflamation and to stand its progress, bleeding is the first remedy which presents itself, and one that should not be used sparing-
ly. Previous to the aqueous accu-
mulation says Wirbering, in a great many cases, if not in all, congestion and slight inflamation are its precursors.
It is the opinion of the great & illustrious Rush "instead of its being considered as an idiopathic disease it should be looked upon as an effect of inflamation or congestion in the brain". It appears he says, "this disease is in its first stage the effect of causes which ex-
cites a less degree of that inflamation which produces phrenitis; and its

second
that eff
apoplexy
from
most fr
medical
in believe
has its
inflam
in itself
tion of b
nates
ion of
of life.
inflamm
in its
not from
in such
although

second stage is a less degree of that effusion which causes serous apoplexy in adults

From the whole it would appear, the most popular opinion entertained by medical writers upon this subject is, in believing it to be a disease which has its origin in a more or less degree of inflamation of its coverings, or the organ itself, with a more or less accumulation of blood in its vessels; which terminates sooner or later in an extravasion of water previous to the extinction of life. Hence we may consider it an inflamatory or congested state of the part, in its commencement and effusion does not primarily exist, but is the consequence of such congestion or inflamation.

Although this organ or its coverings

an aff
is not
Conjectu
= ay of
= al act
the rel
may b
rarely
= mis
Notice

the a
the en
and
in the
this

are affected primarily more generally, if not in all cases, by inflamation or congestion; yet we doubt not the probability of the disease arising from general debility; and in this way from the relaxed state of the vessels effusion may take place; and as this is so rarely the case I think we might dismiss the subject without further notice.

## Treatment.

From the seat and nature of the disease very one coincides in the employment of the most prompt and active means to arrest its course, in the incipient stage. To accomplish this desirable end we should loose

no time in having recourse to

## Blood-letting

The necessity of this remedy is very obvious and in the employment of it we should be guided by the age of the patient. When the pulse is marked by an increased or inflammatory action, we should never neglect performing the operation, by which, we unload the congested state of the vessels of the brain, as well as diminish arterial action. Drawing blood from the temporal artery is advised by some, in preference to taking it from the arm. The superior benefit which we derive from it, do not I think warrant us in giving it that superiority which has been assigned it by some; yet the remedy

under some circumstances should not be neglected. Topical bleeding is also of much utility and should not be overlooked. In abstracting blood, and in the repetition of it, we should be guided by the appearances the disease presents; but as long as there are any symptoms of local congestion or inflamation we should have recourse making use of the remedy and to carry it as far as circumstances will admit. But to make use of this remedy when the disease has arisen from general debility, would be highly reprehensible, as also in the third stage of the disease. After we have had recourse to the above remedy we should not neglect the use of

Pl

Fuse bec
you are
a foulness
a well a
iminishe
the brain
tions, Ca
lined wit
ictolled.
with bon
ttained
this disc
racy. The
in genera
colour, a
il, and
By this C
enabled t

# Purgatives

These become eminently useful where there are indications pointing out a foulness of the alimentary Canal, as well as of great importance in diminishing the determination to the brain. To fulfil these indications, Calomel either alone or combined with Salap has been highly extolled. The Cremor Tartar combined with some drastic Cathartic has attained no little reputation in this disease, from its superior efficacy. The stools which are procured are generally of a dark green colour, resembling in some measure oil, and of a cadaverous smell. By this class of medicines we are enabled to evacuate the bowels and

pave-

These fo
remedie
ployed o
efficac
on a de
al w
on re
e into
absorbe
blood
ut the
his vie
ations,
extrem
convuls
stage

prave the way for other remedies.

## Blisters

These become necessary when the above remedies have been too sparingly employed or when they have proved totally inefficacious. The disease taking on a different aspect, it is required that we should make a change in our remedies and endeavour to rouse into action the power of the absorbents to take up the effused fluid which had been thrown out by the exhalents, and with this view we apply vesicating applications to the head, neck and extremities. The use of blisters, however, are not restricted to this stage alone, but may be employed

in ce
the gree
= ation
with
= lied in
a hear
these rema
been ad
by men

(C

In the
now a
so little
water or
= nly in
of
or do
the red
mention

in either of the stages and from the great discharge which they occasion from the head may be used with much advantage, when applied in the course of the sutures as has of late been advised. When these remedies have been employed it has been advised to keep up the discharge by mercurial dressings.

## Cold Applications

In the use of these every practitioner now agrees and indeed they have gained no little celebrity. Vinegar & water, ice water or ice alone, are those more commonly in use. These application should be so used as not to interfere with the vesicating applications. I may here mention without entering into a separate

tail of t
to Antimon
Potash At
into no in
toms of Ger
n to the
consequence
effusion th
navour to
of the respi
of the effu
on hand r

This is
conjecture
had gone
as a Spe

detail of the propriety of having recourse to Antimonials with refrigerants as the Nitrate of Potash &c when there exists great thirst with no inconsiderable heat and other symptoms of fever. When the disease has run on to the second stage and has a natural consequence of inflammation in this organ, effusion has taken place, we should endeavour to procure such an excitement of the vessels as to occasion a reabsorption of the effused fluid. With this view we have recourse to

## Mercury

This is a remedy in which much confidence has been placed, some indeed have gone so far as to consider it almost as a specific, others again have not spoken

as favou
a one
placed;
, combi
it may
an altera
from it
combinin
is a de
ny fre
oth in
he auth
Hunter,
spect
from i
ments (
indiscre
record
life of

so favourably of it. The remedy however, is one on which much reliance can be placed; either alone, or as some prefer it, combined with some drastic purgative. It may be employed as a purgative or an alterative. To derive the best effects from it however, we should not neglect combining with it some of the diuretics. As a salivation is in young children of very great difficulty we may use it both internally and externally and upon the authority of Drs. Charmichael, Smith, Hunter, Haygarth and others we may expect to derive much advantage from its use. Though whatever arguments have been produced against its indiscriminate use, yet we have on record cases, when thus employed the life of the patient has been saved.

It is
be a f
that it
remedy
the mou
the est
nine fou
benefit
in th
effect

This re
employe
if this
the m
effecti
no doub
is thro

It is with such difficulty we can produce a fatigatism in patients of this age that it requires a very liberal use of the remedy before it can be effected, and then we more frequently fail. It has been carried to the extent of seven or eight and even to nine pounds before we have derived that benefit we expected, yet its indiscriminate use should not lead us to overlook or neglect it.

## Digitalis Purpurea

This remedy appears to have been employed though unsuccessfully in this disease by Forshergill. The manner in which it acts in effecting a cure is, by its proving no doubt a diuretic as also by its power in diminishing arterial

action. I
proved
the above
= Unless it
is appe
should
reconsi
have ge

From
Class of
ourselves
in the
when, i
the apis

This i

action. Although this medicine has proved unsuccessful in the hands of the above cited gentleman, yet nevertheless it has of late succeeded in effecting cures, and therefore should not be overlooked and had recourse to when other remedies have failed.

## Bark

From the employment of this class of medicines we can promise ourselves but little, and that is, in the last stage of the disease, when, if the system requires it, may be assisted by the use of Mercury.

## Opium

This is an article which claims

no Ann
has bee
in this
the a
with C
It has
avoidin
Cma
from
and C
sheri

of the
Wood
while
by kee
Rose
of Dr

no small share of our attention. It has been employed with great advantage in this disease, particularly when there exists much pain accompanied with considerable spasmodic affection. It has been employed largely by Percival, avoiding the use of it, he says, when Coma exists. We may expect much from its combination with digitalis and Calomel as proven by the experience of eminent practitioners.

## Cathartics

Of this class we can say but little. Those most usually employed are the White Helebore and Asarabacca, which by keeping up a discharge from the nose have been supposed to be of some utility in the disease.

This is
highly
and by
any pre
from
Chester
myself
the being
-les or
forma
account
be usi

# Caustic

This is a remedy which has been highly extolled and have been preferred by some to blisters. Whether any great advantage is to be derived from its employment over that of blistering I shall not take it upon myself to decide. It is no doubt, from its being such a powerful stimulus or from its proving more permanent in its effects, of much advantage. The remedy may also be used as a preventative.

Finis